ABSTRACT OF THE DISCLOSURE

A base station (28) included in a radio access network of a telecommunications system has two diversity antennas (44A, 44B) for a cell/carrier utilized in a sector served by the base station which are respectively involved in transmission of two branches of a radio link signal of the cell/carrier between the base station and a user equipment unit (30). Two branches of signal processing hardware respectively process the two branches of the radio link signal to yield two respective processed branches of the radio link signal. A rake receiver (62, 262) measures the delay difference between the two processed branches of the radio link signal, and uses the measured delay difference for various purposes. For example, some embodiments of the invention use the delay difference between the two branches as measured by the rake receiver to compensate for a delay difference which exists between the two processed branches of the radio link signal. When measuring the delay difference between the two branches of an uplink radio signal, a rake receiver (62) at the radio base station is employed. On the other hand, when measuring the delay difference between the two branches of a downlink radio signal, a rake receiver (262) at test user equipment unit (30T) is employed.